Promising Practices for EJ Methodologies in NEPA Reviews

Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee

Working together towards collaborative and innovative solutions

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A NEPA Committee and EJ IWG Document

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Federal agencies should ensure recipients of federal financial assistance engaged in the NEPA process comply with Title VI in addition to fulfilling the requirements of NEPA. A separate Title VI analysis may be necessary. For guidance on Title VI compliance, consult with your Agency's Office of Civil Rights or the Civil Rights Division of the Department of Justice.

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[1]Similar to the NEPA process itself, the Report is intended to be non-linear in nature. While each section of the document has been arranged to loosely mirror a linear progression, in actual practice, these steps are often overlapping and interrelated.

Preface

The Federal Interagency Working Group on Environmental Justice (EJ IWG) established the NEPA Committee in 2012 pursuant to the *Memorandum of Understanding on Environmental Justice and Executive Order 12898 (2011)*. The Memorandum identified the National Environmental Policy Act (NEPA) as an area of focus for inclusion in the agencies' environmental justice efforts and directed efforts to "include interagency collaboration." The NEPA Committee seeks to improve the effective, efficient and consistent consideration of environmental justice issues in the NEPA process through the sharing of best practices, lessons learned, research, analysis, training, consultation, and other experiences of federal NEPA practitioners.

Promising Practices for EJ Methodologies in NEPA Reviews, an EJ IWG report produced by the NEPA Committee (hereinafter referred to as "Promising Practices Report") represents the professional experience, knowledge, and expertise of the individuals participating in the NEPA Committee. The NEPA Committee (see List of NEPA Committee Participants from ten departments, three agencies, and one White House office) spent almost 48 months researching, analyzing and discussing the interaction of environmental justice and NEPA. The *Promising Practices Report* is a compilation of methodologies gleaned from current agency practices identified by the NEPA Committee concerning the interface of environmental justice considerations through NEPA processes. The EJ IWG and NEPA Committee hope that this compilation will disseminate promising environmental justice practices across the federal government so that we can learn from one another about effective ways to build robust consideration of environmental justice into our NEPA practice. This document draws from existing environmental justice and NEPA Guidance developed by White House Council on Environmental Quality (CEQ) and federal agencies, but is not and should not be considered formal guidance.

The forward-looking promising practices methodologies are derived from examples of actual agency practices that were presented by one or more agencies during the multi-agency NEPA Committee meetings. These examples were used by the NEPA Committee participants to generate approaches that federal agencies can consider for understanding environmental justice in the context of the NEPA process. For purposes of this document, the NEPA Committee looked at instructive examples from current practice, and where helpful or relevant, attempted to extract useful lessons learned from those examples. The NEPA Committee has also produced a National Training Product which includes information on specific examples that align with the *Promising Practices Report* for training purposes.

Accordingly, the *Promising Practices Report* sets forth these promising practices as a way of presenting a variety of methodological approaches and a broad overview of options that may be suitable across various NEPA process scenarios, but not as agency requirements or guidance. Information in the *Promising Practices Report* is intended to provide flexible approaches for agencies as they consider environmental justice in NEPA activities. The *Promising Practices Report* does not establish new requirements for NEPA analysis. It is not and should not be viewed as formal agency guidance, nor is the compilation of promising practices intended to be legally binding or create rights and benefits for any person. It is intended, however, as a way for agencies to compare and improve their methodologies for considering environmental justice now and in the future by applying methods established in federal NEPA practice. In that regard, the joint efforts of the NEPA Committee reflect the community of federal NEPA practitioners who seek to facilitate reasonable consideration of environmental justice within the context of NEPA.

The EJ IWG and NEPA Committee hope that their efforts provide the groundwork for a renewed and dynamic process to advance environmental justice principles through NEPA implementation and thereby promote a more effective, efficient, and consistent consideration of environmental justice during NEPA reviews.

I. MEANINGFUL ENGAGEMENT

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. For purposes of consistency with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, the terms "minority populations[2]" and "low-income populations" are used in this document.[3] Within these populations, there are residents, community leaders, and organizations, among others.

2. This document, a compilation of federal NEPA practitioner promising practices, is not formal guidance. It merely provides agencies with recommendations for conducting environmental justice analyses for NEPA reviews. As such, the document is not intended to modify NEPA, the CEQ NEPA regulations, or any agency's NEPA implementation regulations, or impose any requirements beyond what NEPA and Executive Order 12898 require of agencies.

3. In order to meaningfully engage minority populations and low-income populations and other interested individuals, communities, and organizations, agencies may consider (as appropriate) encompassing adaptive and innovative approaches to both public outreach (i.e., disseminating relevant information) and participation (i.e., receiving community input) since minority populations and low-income populations often face different and greater barriers to engagement.

4. Meaningful engagement efforts with potentially affected minority populations, low-income populations, and other interested individuals, communities, and organizations are generally most effective and beneficial for agencies and communities when initiated early and conducted (as appropriate) throughout each step of the NEPA process.

5. Meaningful engagement efforts for potentially affected minority populations, low-income populations, and other interested individuals, communities, and organizations can play an important role in leveraging agencies' ability to collect

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[2] See "Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity" at https://www.whitehouse.gov/omb/fedreg_1997standards/;
See also e.g. "U.S. Environmental Protection Agency's "Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples" at https://www.epa.gov/tribal/epa-policy-environmental-justice-ej-working-federally-recognized-tribes-and-indigenous

[3] Agencies use their discretion to define the range of individuals and/or groups to which they will extend environmental justice analyses within their NEPA process. This report recognizes there are a variety of agency approaches to conducting environmental justice analyses and terminology, and so for consistency, it uses the wording, "minority populations and low-income populations" throughout this document.

data used to inform the decision-making process.

6. Maintaining relationships with affected minority populations, low-income populations, and other interested individuals, communities, and organizations throughout the NEPA process via an agency-designated point of contact can be an effective means of facilitating meaningful engagement.
7. Convening project-specific community advisory committees and other established groups to identify potential impacts and mitigation measures (as part of the NEPA review process) comprised in part of potentially affected minority populations and low-income populations can enhance agencies' understanding of the proposed action's potential impacts and alternatives, and can be a valuable public participation strategy, designed to further inform an agency's decision-making process.

8. Providing minority populations and low-income populations, and other interested individuals, communities, and organizations with an opportunity to discuss the purpose and need statement early in the NEPA process can help focus public input. Explaining the purpose and need for agency action to the minority populations and low income populations early in the NEPA process can help focus meaningful engagement (i.e. public outreach and participation) efforts. (See also section 4.1-4.2, p.20)

Specific Steps

As appropriate, agencies can consider the following actions:

1. Consider conducting early and diligent efforts to meaningfully engage potentially affected minority populations, low-income populations, and other interested individuals, communities, and organizations (as appropriate) when: 1) defining the affected environment; 2) identifying potentially affected minority and low-income populations; 3) assessing potential impacts to minority and low-income populations; 4) assessing potential alternatives; 5) determining whether potential impacts to minority populations and low-income populations are disproportionately high and adverse (See also section 8, p.40); and 6) developing mitigation and monitoring measures. Engaging the community during appropriate key steps in the NEPA review can inform an agency's decision-making process. Agencies may benefit by communicating agency objectives for the proposed activity.
2. Consider identifying and addressing (as appropriate) concerns such as any cultural, institutional, geographic, economic, historical, linguistic, or other barriers to achieve meaningful engagement with potentially affected minority populations, low-income populations, and other interested individuals,

communities, and organizations.

3. Agencies can be informed by soliciting and considering input on the proposed action and alternatives (as appropriate) from each segment of the minority population or low-income population that may potentially be affected (e.g., minority-owned small businesses, low-income transit riders, subsistence fishers).

4. Consistent with applicable requirements, agencies should conduct meaningful engagement efforts and government-to-government consultation efforts (as appropriate) specifically designed to reach indigenous tribal populations and organizations.

5. Throughout each step of the NEPA process (as appropriate) consider the use of electronic communications (e.g., virtual meetings, webinars, social media, Listserv). This method of communication may not be effective for some populations, and its use could be discussed in conjunction with other methods of communication that are viable. Throughout each step of the NEPA process (as appropriate) consider choosing meeting locations, meeting times, and facilities that are local, convenient, and accessible to potentially affected minority populations and low-income populations, and other interested individuals, communities, and organizations, which includes holding some meetings outside of traditional work hours and locations.

6. Consistent with applicable requirements, agencies should prepare NEPA documents in plain, clear language and provide multiple forms of communication (e.g., written, oral, pictorial) to accommodate varied levels of reading proficiency, to facilitate meaningful engagement, and to account for limited English proficiency (LEP). Also, consider (as appropriate) providing interpretation and translation services at public meetings.

7. Consider documenting and explaining the steps taken throughout the NEPA process (as appropriate) for agencies' public outreach and public participation actions or decisions (e.g., how minority populations and low-income populations were identified and how barriers to involvement were identified and addressed). Providing these explanations can be helpful to both an agency's decision-making process and the community's understanding of the NEPA process.

8. Consider providing notice to the public (as appropriate) of the meeting date(s) and time(s) well in advance and through methods of communication suitable for minority and low-income populations (including LEP populations) to accommodate the schedules of minority populations and low-income populations, and other

interested individuals, communities, and organizations. By considering mandatory minimum time requirements between advance notification and meetings that may exist (e.g. time requirements for tribal consultations) an agency can more effectively establish schedules for public notice.

II. SCOPING PROCESS

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. A broad cross-media perspective of affected resource topics analyzed in the NEPA document (e.g., water resources, land use, air quality) during scoping may help ensure potential human health and environmental effects on minority populations and low-income populations are considered within the scope of the NEPA review. Agencies can be informed by an understanding that minority populations and low-income populations may have increased or unique vulnerabilities from multiple impacts in one or more environmental resource topics or from cumulative impacts, and that the extent of the affected environment may vary for each resource topic addressed in the NEPA document.[4]

2. Agencies may wish to conduct several small scoping meetings for minority populations and low-income populations to foster more participation and substantive discussions (e.g., community members may feel intimidated by large public meetings and formal discussions). If more than 15-20 people are in attendance, breaking into discussion groups may improve the effectiveness of the meeting.

3. Prior to the scoping process, it may be beneficial for agencies to develop a written strategy to identify, notify, and solicit input from potentially affected minority populations and low-income populations for agencies to consider in determining the scope of the NEPA review. Self-identified minority populations and low-income populations can be included in this process.

4. Due to the broad nature of programmatic assessments, certain site-specific environmental justice methodologies described within this section may not be directly applicable. For some programmatic assessments, the scope may be regional or national.

Specific Steps

As appropriate, agencies can consider the following actions:

1. Consider conducting a preliminary screening analysis at the beginning of the scoping process to determine whether minority populations and low-income

[4] See US EPA, *Factors for Identifying and Addressing Disproportionate Environmental Health Impacts* (2007); Supplement to American Journal of Public Health, Vol. 101, No. S1 (Dec 2011).

populations may be present and could be affected by the proposed action. A web-based Geographic Information System tool (e.g., EJSCREEN) can be used to help identify the location and concentrations of minority populations and low-income populations.

2. If the preliminary screening process identifies a potentially affected minority population or low-income population, agencies may benefit by conducting the remainder of the scoping process in consideration of the potential unique characteristics and vulnerabilities of the minority populations and low-income populations.

3. To develop an effective public participation process, agencies can be informed by contacting local community leaders in the potentially affected minority populations and low-income populations (as appropriate). This can help determine the number of public and individual meetings to be scheduled throughout the NEPA process.

4. When federally-recognized tribes are potentially affected by the proposed action, consider seeking government-to-government consultation (as appropriate) with tribal representatives, leaders, or officials, and offer appropriate opportunities for tribal participation (e.g., as a cooperating agency or consulting party).

5. Consider using media suitable to reach potentially affected minority populations and low-income populations (e.g., local newspapers and radio programs word of mouth, churches, civic centers, and other places where people gather in the community) to provide notification about an agency's proposed action and the scoping process (as appropriate).

6. Consider (as appropriate) specifically inviting potentially affected minority populations and low-income populations when conducting public scoping meetings.[5] In some cases it may be useful for agencies to use a neutral third-party (e.g., convener, facilitator, and mediator) familiar with environmental justice issues and with the particular community that is potentially affected by the proposed action. It may also be appropriate to provide an interpreter for public meetings when LEP communities may be affected.

7. Consider conferring with minority populations and low-income populations, and other interested individuals, communities, and organizations (as appropriate) to gather any relevant data on the current and past conditions (e.g., ecological,

[5]When convening groups, agencies should note the potential applicability of the Federal Advisory Committee Act (FACA) of 1972 (PL92-463).

aesthetic, historic, cultural, economic, social, or health) of the potentially affected minority populations and low-income populations, in order to inform the NEPA review.

8. Agencies may wish to consider ensuring that agency records clearly reflect the rationale for any scoping determinations made concerning minority populations and low-income populations (e.g., alternatives development, mitigation measures).

9. Consider circulating (as appropriate) a post-scoping summary report/document to potentially- affected minority populations and low-income populations, informing them of the input received and outcomes of the scoping process. Keeping the community informed may assist agencies in receiving meaningful engagement from the community during later stages of the NEPA process.

10. Regardless of the thoroughness of the scoping efforts, if new and significant information that potentially affect minority populations and low-income populations arise later in the NEPA process, in accordance with CEQ regulations (40 CFR 1501.7(c)), agencies should consider modifications to the proposed action, alternatives or potential mitigation measures. As appropriate, agencies may benefit by assessing consistency of the proposed modifications with the purpose and need.

III. DEFINING THE AFFECTED ENVIRONMENT

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. Consistent with applicable requirements (e.g., 40 CFR §1502.15), as agencies describe the environment of the area(s) to be affected or created by the alternatives under consideration, they can benefit from an understanding of community and population characteristics, location, conditions and other relevant information. One of the important functions of defining the affected environment is to help agencies determine the outer boundaries (i.e., footprint) of each potentially impacted resource topic analyzed in the NEPA document. These boundaries help define the affected area within which potentially impacted minority populations and low-income populations will be considered during the NEPA review. The geographic extent of the affected environment may vary for each resource topic analyzed in the NEPA document.

2. Data (including input from minority populations, low-income populations, and other interested individuals, communities, and organizations) on ecological, aesthetic, historic, cultural, economic, social, or health conditions of minority populations and low-income populations within the affected environment can provide agencies with useful insight into how the community's conditions, characteristics, and/or location can influence the extent of the affected environment. (See also section 2.1, p.14)

3. After considering unique conditions (e.g., ecological, aesthetic, historic, cultural, economic, social, or health) of the potentially affected minority populations and low-income populations, Agencies may wish to consider that the extent of the affected environment maybe larger (or smaller) and differently shaped than the boundaries would have been drawn without the existence of those conditions. The affected environment may also not be contiguous. (See also section 5, p.23)

4. When determining whether a potentially affected minority population or low-income population influences the extent of the affected environment, agencies can be informed by considering the proposed action's: 1) exposure pathways (routes by which the minority or low-income population may come into contact with chemical, biological, physical, or radiological effects); 2) ecological, aesthetic, historic, cultural, economic, social, or health consequences to the community; and 3) distribution of adverse and_beneficial impacts from the proposed action. (See also section 5, p.23)

5. Agencies may wish to create a map to delineate the affected environment. A visual depiction of the affected environment may be beneficial to an agency's decision-making process, meaningful engagement efforts, and to the community's understanding of the proposed federal action. (See also section 2, p.14)

Specific Steps

As appropriate, agencies can consider the following actions:

1. In order to provide a useful comparative context for the consideration of impacts to minority populations and low-income populations, when developing the baseline characterization of the affected environment agencies can be informed by considering for each resource topic in the NEPA document: 1) exposure pathways; 2) direct, indirect and cumulative ecological, aesthetic, historic, cultural, economic, social, or health impacts; and 3) distribution of any potential beneficial or adverse impacts. Agencies may also be informed by consideration of multiple exposures. (See also section 7.1:11, p. 34)

2. Agencies may wish to consider collecting data and information relevant to the three community considerations in Step One (exposure pathways, related impacts, and beneficial impacts distribution) for minority populations and low-income populations within the boundaries of the baseline characterization. Include data related to reasonably foreseeable direct, indirect, and cumulative adverse and beneficial impacts from the proposed federal action on the community. Agencies may also be informed by consideration of multiple exposures. (See also section 8.1:11, p. 42)

3. Agencies may wish to consider data and information from a variety of sources, including, but not limited to: 1) community residents and other interested individuals and organizations; 2) data sets from federal, state, local and tribal governments; 3) peer-reviewed and other scientific literature; and 4) articles in industry and professional journals, popular press, websites, etc.

4. Agencies may wish to consider identifying and describing any unique conditions of the potentially affected minority populations and low-income populations that may be affected by the proposed action, based on data and information collected in Specific Step Two above. Unique conditions may include, but are not limited to: 1) human health vulnerabilities (e.g., heightened disease susceptibility, health disparities); 2) socioeconomic vulnerabilities (e.g., reliance on a particular resource that may be affected by the proposed action, disruptions to community mobility and access as a result of infrastructure development); and 3) cultural vulnerabilities (e.g., traditional cultural properties and ceremonies, fish

consumption practices).

5. Agencies may wish to consider the need to revise the initial baseline characterization (see section 3.2:1) of the affected environment, including revisions to the outer boundaries and pockets of minority populations and low-income populations (as appropriate) using information obtained from specific steps Two through Four. Be mindful that data may suggest the outer boundaries of the affected environment and/or pockets of minority populations and low-income populations may require adjustment.

6. Consider documenting agencies' characterizations of the affected environment in plain language that is easily understood by the general public and the potentially affected minority populations and low-income populations.

7. Consider providing written explanation in the records for agencies' chosen methods and data used to characterize the affected environment (See, e.g., 40 CFR §1502.24)

IV. DEVELOPING AND SELECTING ALTERNATIVES

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. Providing minority populations and low-income populations with a purpose and need statement early in the NEPA process can help focus public input regarding appropriate reasonable alternatives. Reexamination of the potential alternatives in light of relevant public input will, in turn, assist agencies in identifying the range of reasonable alternatives, including a preferred alternative that meets the purpose and need, while addressing concerns of the community. (See also section 1.8, p. 11)

2. Agencies can be informed when reasonable alternatives reflect (as appropriate) a comparable level of detail concerning issues affecting minority populations and low-income populations. If reasonable alternatives have substantial differences in the level of detail of available information concerning impacts to minority populations and low-income populations, agencies may wish to consider generating comparable information about impacts or mitigation to make the comparisons relevant to one another.

3. As agencies explore the range of reasonable alternatives, agencies may consider (as appropriate) whether structuring alternatives to allow a decision to be based on an alternative developed from a combination of elements from multiple alternatives might be appropriate to address impacts to minority populations and low-income populations. Agencies may consider stating in the NEPA document that an alternative developed from the elements of the other alternatives may be considered. In this case, the alternatives may be structured to enable comparison of key elements across the alternatives (e.g., a modular analytic approach) (See, e.g., 40 CFR §1502.14(a)).

4. Providing a discussion of how and why the reasonable alternatives were developed and explaining why additional alternatives supported or proposed by the minority populations and low-income populations may have been eliminated from detailed study can assist agencies with managing potential public confusion or opposition (See, e.g., 40 CFR §1502.14).

5. Agencies can benefit by meaningfully engaging minority populations and low-income populations to provide input on the range and design of potential reasonable alternatives and the purpose and need statement while still under development, or as early as possible in the NEPA process, as well as

encouraging communities to propose their own alternatives. Agencies can advance community engagement by means such as community advisory committees, public workshops, and individual and community-wide meetings.[6]

6. The identification of a disproportionately high and adverse impact to a minority population or low-income population can heighten agencies' attention to identifying reasonable alternatives that could mitigate the adverse impact, and using community input into agencies' development of mitigation measures.

Specific Steps

As appropriate, agencies can consider the following actions:

1. Consistent with applicable requirements provide minority populations and low-income populations with an opportunity to provide input during agencies' development of the purpose and need statement and proposed alternatives, as well as reviewing and commenting on the draft purpose and need statement and the proposed alternatives during scoping.

2. Consistent with applicable requirements, agencies should consider any relevant public comments regarding the identification of reasonable alternatives.

3. Consistent with applicable requirements, agencies should consider whether the proposed alternatives avoid and/or mitigate impacts to minority populations and low-income populations. As appropriate, agencies may wish to consider distribution of benefits to minority populations and low-income populations.

4. Consider documenting the rationale used for selecting and eliminating alternatives from detailed study, including those additional alternatives supported or proposed by the minority populations and low-income populations.

5. When minority populations and low-income populations would be affected by the proposed action, agencies may wish to consider the following types of mitigation for selecting reasonable alternatives (as appropriate):
   - identify alternate locations or sites
   - alter the timing of activities to account for seasonal dependencies on natural and human resources
   - incorporate pollution prevention practices and policies to reduce the size or intensity of an action or its impacts
   - include additional benefits to the community

[6] When convening groups, Agencies should consider the potential applicability of the Federal Advisory Committee Act (FACA) of 1972 (PL92-463).

- incorporate other measures proposed by the community, including changing specific aspects of the project
- do not implement the proposed action or action alternative.

Proper documentation for the chosen type of mitigation should be provided in the NEPA document.

6. Agencies may wish to consider identifying any alternatives that would result in a disproportionately high and adverse impact to minority populations and low-income populations.

7. Agencies may wish to consider which alternative(s) have the least adverse impact to minority populations and low-income populations and alternatives that would minimize or mitigate disproportionately high and adverse impacts as a factor when identifying reasonable alternatives and the preferred alternative.

8. Consider documenting any steps that may have been taken by agencies to receive community input during the development of: 1) the purpose and need statement; 2) reasonable alternatives; and 3) identification of a preferred alternative.

V. IDENTIFYING MINORITY POPULATIONS

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. In general, minority populations are identified based on the "affected environment." (See section 3) Minority populations may consist of groups of culturally different subpopulations with potentially different impacts and outreach needs. Minority populations may be dispersed throughout the study area, but have significant numbers.

2. Minority populations may reside in tightly clustered communities, or be evenly or unevenly distributed throughout the general population. Selecting a geographic unit of analysis (e.g., county, state, or region) without sufficient justification may portray minority population percentages inaccurately by artificially diluting their representation within the selected unit of analysis.

3. To sufficiently identify small concentrations (i.e., pockets) of minority populations, agencies may wish to supplement Census data[7] with local demographic data. Local demographic data and information (including data provided by the community and Tribes) can improve an agency's decision-making process. Anecdotal data should be validated for accuracy whenever possible. Agencies should disclose, as appropriate, when anecdotal data has not been validated.

4. When conducting the *Meaningfully Greater* analysis[8] (described below) agencies can benefit by being sensitive to situations where a large percentage of the residents is comprised of minority individuals. In selecting the appropriate reference community, it is important to capture relevant demographic information. A larger scale reference community (e.g., municipal, state, or regional) may be required under this circumstance to obtain results that accurately reflect the existence of a minority population in the geographic unit of analysis (e.g., census block) being analyzed.

[7] Some populations may not be fully accounted for in Census data. As appropriate, agencies can consider using local sources of data (including data provided by the community and Tribes) to conduct *the No Threshold* analysis.

[8] *Meaningfully greater* is a term used in "Appendix A, Text of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Annotated with Proposed Guidance on Terms" which is attached to CEQ's *Guidance Under the National Environmental Policy Act (1997)*.

5. The *Fifty Percent* analysis [9](described below) can be conducted to initially identify the extent to which minority populations reside within the affected environment. An aggregate of minority populations over 50% for the entire affected environment indicates increased scrutiny in the environmental justice analysis may be appropriate (e.g. to assess majority minority populations). Agencies may wish to conduct the *Meaningfully Greater* analysis, regardless of the results from the *Fifty Percent* analysis.
6. The use of thresholds to identify minority populations is an established method but may not always capture relevant demographic information. Regarding the identification of minority populations, population size is a factor considered in the *Fifty Percent* analysis and *Meaningfully Greater* analysis. The *No-Threshold* analysis (described below) attempts to identify all minority populations regardless of population size. Either the *No-Threshold* analysis alone, or conducting both the *Fifty Percent* and *Meaningfully Greater* analyses together can be used to identify minority populations prior to the determination of disproportionately high and adverse impacts.

7. The *Fifty Percent* analysis plays an important role in identifying minority populations when a large percentage of the population in the geographic unit of analysis or reference community is comprised of minority individuals. Under these circumstances, the *Fifty Percent* analysis can function as a direct measure, to ensure that when minority individuals comprise a majority of an appropriate geographic unit of analysis (e.g., block group[10]) a minority population is identified, regardless of whether the *Meaningfully Greater* analysis has a similar outcome.

8. When either the *No-Threshold* analysis has been conducted, or when the *Fifty Percent* analysis and *Meaningfully Greater* analysis have been conducted, and the applicable analysis has documented a majority minority population (i.e., where a majority of the population in the affected environment is comprised of minorities) special emphasis should (as appropriate) be placed on identification of impacts. Due to the larger number of identified minority populations in these circumstances, agencies can benefit from focusing attention and available agency resources (e.g., outreach activities and impacts analyses) on minority populations

[9] *50%* is a term used in "Appendix A, Text of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Annotated with Proposed Guidance on Terms" which is attached to CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act* (1997).

[10] Census Block Groups are statistical divisions of census tracts, are generally defined to contain between 600 and 3,000 people, and are used to to present data and control block numbering. A block group consists of clusters of blocks within the same census tract that have the same first digit of their four-digit census block number.

that are potentially disproportionately impacted by the proposed action (i.e., see the factors listed in Disproportionately High and Adverse Impacts section).

9. Agencies can be informed by determining if any minority or low-income transient or geographically dispersed populations (e.g., Native Americans, migrant farm workers)reside seasonally within the affected area or may otherwise be affected (e.g. may reside elsewhere but come within the affected area for subsistence fishing or to collect traditional medicines) by consulting sources such as: 1) the US Department of Agriculture 2012 Census of Agriculture, Table 7: Hired Farm Labor Less than 150 Days and Migrant Farm Labor on Farms with Hired Labor; and 2) community members and other interested individuals or organizations, or other appropriate sources.

Specific Steps

As appropriate, agencies can consider the following actions:

The identification of minority populations can be accomplished in various ways. These ways, discussed in the following Specific Steps, include but are not limited to: A) the *No Threshold* analysis; or B) both the *Fifty Percent* analysis and the *Meaningfully Greater* analyses in concert.

A reference community is helpful for context and for future disproportionate effects analysis. A reference community's total number of minority individuals and percent minority can be compared to the population in the affected environment or geographic unit of analysis. Agencies may wish to clearly articulate the basis for the selection of a reference community.

A) <u>To conduct the *No-Threshold* analysis:</u>

1. Select an appropriate geographic unit of analysis (e.g., census block, block group).[11]

2. Determine the total number of minority individuals (all individuals other than non-Hispanic whites) and the percent minority for each geographic unit of analysis within the affected environment.

[11] Census Blocks are the smallest geographic areas that the Census Bureau uses to tabulate decennial data. Blocks are statistical areas bounded by visible features, such as streets, roads, streams, and railroad tracks, and by nonvisible boundaries, such as selected property lines and city, township, school district, and county limits. Block Groups are statistical divisions of census tracts, are generally defined to contain between 600 and 3,000 people, and are used to present data and control block numbering. A block group consists of clusters of blocks within the same census tract that have the same first digit of their four-digit census block number.

3. Identify the existence of a minority population for each geographic unit of analysis in which Step 2 (above) indicates a minority percentage.

4. Display the minority populations in map and table format by geographic unit of analysis, as appropriate.

5. Provide a written rationale which explains the selection of the geographic unit of analysis, the reference community, and other methods used to identify minority populations.

- OR-

B) To conduct both the *Fifty Percent* analysis and the *Meaningfully Greater* analyses in concert:

(i) Conducting the *Fifty Percent* analysis

1. Determine the total number of individuals residing within the affected environment.

2. Determine the total number of minority individuals (all individuals other than non-Hispanic whites) residing within the affected environment.

3. Select the appropriate geographic unit of analysis within the affected environment (e.g., census block, block group).

4. Determine the percentage of minority individuals (including Hispanics) residing within the geographic unit of analysis.

5. If the percentage of minorities residing within the geographic unit of analysis meets or exceeds 50%, note the existence of a minority population.

6. Next, compare the total number of minorities residing within the affected environment against the total number of individuals residing within the affected environment, in order to determine the percentage of minority individuals residing within the affected environment.

7. If the percentage of minorities residing in the affected environment exceeds 50%, consider noting the need for a heightened focus throughout the entire environmental justice analysis.

8. After completion of the *Fifty Percent* analysis, conduct the *Meaningfully*

Greater analysis.

(ii) Conducting the *Meaningfully Greater* analysis:

1. Select the appropriate geographic unit of analysis for the affected environment (e.g., census block, block group).

2. Select the appropriate reference community (e.g., county, state).

3. Select the appropriate meaningfully greater threshold for comparison. The *Meaningfully Greater* analysis requires use of a reasonable, subjective threshold[12] (e.g., ten or twenty percent greater than the reference community). What constitutes 'meaningfully greater' varies by agency, with some agencies considering any percentage in the selected geographic unit of analysis that is greater than the percentage in the appropriate reference community to qualify as being meaningfully greater.

4. Compare the percentage of minority individuals residing within the selected geographic units of analysis to the percentage of minority individuals residing within the reference community.

5. If the percentage of minorities residing within the geographic unit of analysis is meaningfully greater (based on application of the threshold) either individually or in the aggregate, than the percentage of minorities residing within the reference community, disclose the existence of a minority population.

6. Display identified minority populations in a map and table format, as appropriate. Care should be taken to present accurate and current data and information, and explain the limitations of the data and information.

7. Provide a written rationale which explains the selection of the geographic unit of analysis, the reference community, the meaningfully greater threshold, and other methods used to identify minority populations.

[12] To calculate benchmark values, some Agencies use a percent of the absolute number rather than adding a subjective threshold present. This is especially important when the percent of the minority population is small.

VI. IDENTIFYING LOW-INCOME POPULATIONS

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. When identifying low-income populations, it may be useful for agencies to consider the publication date for poverty data that is used in the Census Bureau's poverty thresholds and the U.S. Department of Health and Human Services' poverty guidelines or other agency-specific poverty guidelines. Using the most current poverty data is preferable but agencies should also consider whether there are differences in the dates for local, state and national data.

2. Agencies may wish to refine low-income status determinations, whenever possible. Use of local data sources on poverty may be more current than the Census Bureau's American Community Survey or other periodically-collected data sources.

3. There are several ways to assess low-income thresholds, such as identifying the proportion of individuals below the poverty level, households below the poverty level, and families with children below the poverty level. It may be reasonable to assess low-income thresholds in more than one way to be more inclusive.

4. Low-income populations may reside in tightly clustered communities, rather than being evenly distributed throughout the general population. Selecting a geographic unit of analysis (e.g., county, state, or region) without sufficient justification may portray low income population percentages inaccurately by artificially diluting their representation within the selected unit of analysis.

5. Low-income status need not always be capped at the poverty level. In some instances, it may be appropriate for agencies to select a threshold for identifying low-income populations that exceeds the poverty level.

Specific Steps

As appropriate, agencies can consider the following actions:

The identification of low-income populations can be accomplished in various ways, including by conducting either: A) the *Alternative Criteria* analysis; or B) the Low-*Income Threshold Criteria* analysis.

While not required for the *Alternative Criteria* analysis, a reference community can be

helpful by providing context and for future disproportionate effects analysis. Agencies may wish to clearly articulate the basis for the selection of a reference community for either the *Alternative Criteria* analysis or the *Low-Income Threshold Criteria* analysis.

A. Conducting the Alternative *Criteria* analysis:

1. Select and disclose the appropriate poverty thresholds as defined by the Census Bureau, the poverty guidelines as defined by the Department of Health and Human Services, or other appropriate source (e.g., federal program eligibility standards).

2. Select an appropriate geographic unit of analysis (e.g. block group, census tract) for identifying low-income populations in the affected environment.

3. Select an appropriate threshold for determining whether a particular geographic unit of analysis is identified as a low-income population. (See section 6.1:5, p.28)

4. Determine the total number of low-income individuals (or households) and the percent low-income for each geographic unit of analysis within the affected environment.

5. Identify the existence of a low-income population for each geographic unit of analysis in which Step 4 (above) indicates a low-income percentage at or above the selected Census Bureau poverty threshold or the Department of Health and Human Services poverty guidelines, or other appropriate alternate source.

6. Display the low-income populations in map and table format by geographic unit of analysis, as appropriate.

B. Conducting the *Low-Income Threshold Criteria* analysis:

1. Select and disclose the appropriate poverty thresholds as defined by the Census Bureau, the poverty guidelines as defined by the Department of Health and Human Services, or other appropriate source (e.g., federal program eligibility standards).

2. Select an appropriate geographic unit of analysis (e.g., block group, census tract) for identifying low-income populations in the affected environment.

3. Select the appropriate reference community (e.g., county, state) to compare against the geographic units of analysis.

4. Select an appropriate measure(s) (such as individuals below the poverty level, median household income, or families below the poverty level) for comparing the poverty level in the geographic unit of analysis to the reference community.

5. Select an appropriate threshold for determining whether a particular geographic unit of analysis is identified as low-income. (See Guiding Principle 5).

6. Determine the percentage of individuals (or households) at or below the selected low-income threshold for the reference community and in each geographic unit of analysis.

7. Compare the percentage (from Step 6 above) in each geographic unit of analysis to the percentage in the reference community.

8. If the percentage in the geographic unit of analysis is equal to or greater than that of the reference community, disclose the existence of a low-income population.

9. Display in the NEPA document low-income populations identified within the affected environment in a meaningful way, such as a map, table, pie-chart, etc. (as appropriate).

10. Provide a written rationale in the NEPA document which explains the selection of data sources and other methods that were used to identify low-income populations regardless of whether the *Alternative Criteria* analysis or *Low-Income Threshold Criteria* analysis was done. If some data sources were preferentially used over others, provide rationale supporting their selection.

VII. IMPACTS ANALYSIS

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. When analyzing the proposed action, it is important to recognize the relationship between potential impacts and potential exposures, as these terms are not synonymous. An impact is the adverse or beneficial result of exposure or other environmental consequences of the proposed action.

2. Impacts from the proposed action to minority populations and low-income populations in the affected environment may be either adverse or beneficial. The specific conditions and characteristics of the affected community including differences among minority subpopulations can inform whether the impact is beneficial or adverse. It is important to realize that what is considered a beneficial impact to some communities may be considered an adverse impact to others.

3. Potential direct, indirect, and cumulative impacts on minority populations and low-income populations in the affected environment include both human health and environmental impacts from an agency's programs, policies, or activities. Potential environmental impacts encompass both the natural and physical environment and can include ecological, aesthetic, historic, cultural, economic, social, or health[13]impacts to minority populations and low-income populations in the affected environment.

4. Background data on minority populations and low-income populations in the affected environment can enhance an agency's understanding of the nature and severity of potential impacts, which in turn informs an agency's decision-making process. Sources of data include, but are not limited to, national data sets (e.g., U.S. Census, National Vital Statistics System, National Birth Defect Registry, Area Health Resources Files, and National Registry for Historic Places) and state and local data sets (e.g., State Cancer Registries, State Register of Cultural Properties). In addition, empirical data, based on verifiable observations or experience, can also be used for the analysis.

5. In accordance with applicable regulations, federal agencies may wish to

[13] Ecological, aesthetic, historic, cultural, economic, social or health impacts are delineated as effects in 40 CFR § 1508.8 and in Appendix A, "Text of Executive Order 12898, 'Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,' Annotated with Proposed Guidance on Terms" which is attached to CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act* (1997).

consider identifying the presence of transient and/or geographically dispersed populations and whether there is a potential for any unique or amplified impacts to these populations. Native Americans, farm workers, and other transient laborer and/or geographically dispersed populations are potentially more susceptible to environmental and health impacts. Reasons for this may include: 1) prolonged exposure to the natural environment with potential exposure to environmental hazards; 2) limited access to health care providers; 3) generally lower level of education; or 4) propensity for limited English proficiency.

6. As appropriate, Health Impact Assessments (HIAs), Social Impact Assessments (SIAs), and social determinants of health (consideration of economic and social conditions influencing human health) can provide agencies with important background data. Agencies may consider reaching out to entities both inside and outside the Federal government to seek their help in preparing HIAs, SIAs, and considering the social determinants of health, as either part of or an addendum to the NEPA document.

7. Minority populations and low-income populations in the affected environment may hold an opposing technical or scientific view (which can be based on several sources, including the community) from agencies regarding specific impacts and/or methods of analysis. Responsible opposing views from minority populations and low-income populations in the affected environment, including views regarding an impact's status as disproportionately high and adverse, may warrant discussion in a NEPA document. In instances of a Final Environmental Impact Statement, NEPA requires that agencies must discuss any responsible opposing view raised by the community which was not adequately discussed in the draft statement and indicate the agency's response to the issues raised (e.g., 40 CFR §1502.9(b)).

8. NEPA requires agencies to consider three types of effects or impacts: (1) direct effects, which are caused by the action and occur at the same time and place; (2) indirect effects, caused the action and are later in time or farther removed in distance, but are still reasonably foreseeable; and (3) cumulative impacts, the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. When assessing cumulative impacts, agencies may wish to (as appropriate):

   - be mindful that minority populations and low-income populations in the affected environment may be differently affected by past, present, or reasonably foreseeable future impacts than the general population; and

- in some circumstances, consider (among other existing conditions) chemical and non-chemical stressors that could potentially amplify impacts from the proposed action to the health of minority populations and low-income populations in the affected environment. Non-chemical stressors can include current health status (e.g. pre-existing health conditions) and past exposure histories, and social factors such as community property values, sources of income, level of income, and standard of living.

9. Consistent with applicable requirements, agencies should consider, when a proposed action that may fall within a categorical exclusion (CE) involves impacts to minority populations and low-income populations in the affected environment, whether any extraordinary circumstances are applicable. Extraordinary circumstances are unique situations that may result in potential impacts beyond those generally arising from actions subject to the CE. Agencies have developed their own definitions of the type of circumstances that may constitute extraordinary circumstances, and those regulations should be consulted. Before determining that a proposed action can be categorically excluded, it must be determined whether extraordinary circumstances may exist (e.g., 40 CFR §1508.4) If a proposed action that otherwise would be categorically excluded could potentially have a disproportionately high and adverse impact on minority populations and low-income populations in the affected environment, this could contribute to finding an extraordinary circumstance requiring the project undergo further analysis in an Environmental Assessment or EIS, as appropriate.

10. According to the Intergovernmental Panel on Climate Change (IPCC) "[c]limate-related hazards exacerbate other stressors, often with negative outcomes for livelihoods, especially for people living in poverty... Climate-related hazards affect poor people's lives directly through impacts on livelihoods, reductions in crop yields, or destruction of homes and indirectly through, for example, increased food prices and food insecurity" (*IPCC, Climate Change 2014*). Agencies may wish to consider how impacts from the proposed action could potentially amplify climate change-related hazards (e.g., storm surge, heat waves, drought, flooding, and sea level change) in minority populations and low-income populations in the affected environment, and vice versa. Agencies may benefit by considering climate resilience in the proposal's design and alternatives.

11. In some circumstances, agencies may consider cumulative impacts that may result from chemical and non-chemical stressors, exposures from multiple routes or sources, and factors that differentially affect exposure or toxicity to communities.

    - The cumulative ecological, aesthetic, historic, cultural, economic, social, or health effects of the proposed action can arise from and also include *non-chemical stressors*.
    - Communities can experience cumulative impacts to one or more chemical, biological, physical, or radiological contaminants across environmental media (e.g., air, water, soil, land use) from single or multiple sources, over time in one or more locations.
    - Communities can experience multiple exposures from any combination of direct, indirect, or cumulative impacts to two or more chemical, biological, physical, or radiological contaminants from single or multiple sources.

12. As with any resource area, whether environmental justice is being addressed within each individual resource section of the NEPA document or it is addressed in a single section of the NEPA document, agencies can benefit from a transparent presentation of environmental justice issues. Agencies may wish to consider including in the Introduction, Overview, and/or Executive Summary section of the NEPA document a brief discussion and/or table presenting a summary of the environmental justice impacts discussed in greater detail within the document. This discussion may consider providing environmental justice information, such as general findings and conclusions to make the information readily accessible for agency decision-making and to facilitate public use. Agencies may note in the table of contents all areas where environmental justice is discussed.

Significance

1. Pursuant to NEPA, the human environment includes both the natural and physical (e.g., built) environment and the relationship of people with that environment. Significant impacts to the human environment (including minority populations and low-income populations) can result from ecological, aesthetic, historic, cultural, economic, social, or health impacts. However, economic or social impacts are not considered significant unless they are interrelated with natural or physical environmental impacts.

2. Executive Order 12898 does not change the legal thresholds for NEPA, including whether a Categorical Exclusion, Environmental Assessment, or an

Environmental Impact Statement should be prepared.

3. A disproportionately high and adverse impact to minority populations and low-income populations can occur at any level of NEPA review. In some circumstances, an agency may determine that impacts are disproportionately high and adverse, but not significant within the meaning of NEPA. In other circumstances, an agency may determine that an impact is both disproportionately high and adverse and significant within the meaning of NEPA.

4. In general, pursuant to NEPA, determining whether an impact is significant requires consideration of both context (i.e., society as a whole, the affected region, the affected interests, and the locality) and intensity (i.e., the severity of the impact) (see 40 CFR §1508.27(a)-(b)). The impacts of a proposed action on minority populations and low-income populations should inform the determination of whether impacts are significant.

5. An assessment of an impact's significance to the general population without consideration of the impact to minority populations and low-income populations in the affected environment may not be adequate. An agency's consideration of impacts to minority populations and low-income populations helps ensure that significant impacts are identified.

6. Executive Order 12898 instructs agencies to determine whether impacts are disproportionately high and adverse to minority populations and low-income populations but EO 12898 does not address significance. Agencies may choose to consider determining whether an impact is significant prior to analyzing whether the impact is disproportionately high and adverse, since significance may be a factor for consideration in an agency's disproportionately high and adverse determination.[14] To the extent agencies seek additional guidance on how to analyze significance. Refer to CEQ NEPA regulation on significance at 40 CFR §1508.27. (See also section 7.1-2)

7. Determining whether an impact is significant to minority populations and low-income populations in the affected environment involves focusing the analysis on aspects of context and intensity most relevant to the impacted community. In general, this entails focusing on various factors related to an impact's severity

[14] See Appendix A, "Text of Executive Order 12898, 'Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,' Annotated with Proposed Guidance on Terms in the Executive Order," which is attached to CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act* (1997)

(discussed in 40 CFR §1508.27(b)) as they pertain to the community's affected interests and locality (context).

8. The degree to which an impact involves unique or unknown risks (see 40 CFR §1508.27(b)(5)) to minority populations and low-income populations in the affected environment can inform how agencies assesses the significance of the impact. Minority populations and low-income populations could be uniquely susceptible to impacts from a proposed action due to: 1) special vulnerabilities, e.g. pre-existing health conditions that exceed norms among the general population; 2) unique routes of exposure, e.g. use of surface or well water in rural communities; or 3) cultural practices, e.g. subsistence fishing, hunting or gathering, access to sacred sites.

9. When both positive and adverse impacts have been identified, a significant impact may exist even if an agency believes that on balance the effect will be beneficial (see 40 CFR§1508.27(b)(1)). While an action may result in an overall potentially beneficial impact to the general population, the impact may still present an adverse impact to minority populations and low-income populations in the affected environment.

10. Additional factors related to an impact's intensity (discussed in 40 CFR §1508.27(b)) that could lead to a finding of significance to minority populations and low-income populations in the affected environment, despite having no significant impact to the general population include: 1) the health and safety of the community; 2) the community's unique geographic characteristics, including proximity to cultural resources; 3) the degree to which the action may establish a precedent for future actions with significant effects; 4) loss of significant cultural or historical resources; and 5) the impact's relation to other cumulatively significant impacts.

11. The various factors related to an impact's intensity (discussed in 40 CFR §1508.27(b)) can also help inform an agency's consideration of potential mitigation measures and identification of potential disproportionately high and adverse impacts.

12. When assessing the availability of information regarding minority populations and low-income populations in the affected environment, information may be less available than for the general population. When an agency is evaluating reasonably foreseeable significant impacts in an environmental impact statement, it may wish to consider the availability of information regarding minority populations and low-income populations. If relevant information on

minority populations and low-income populations is not currently in the possession of an agency, this should be clearly stated. If the unavailable information is essential to making a reasoned choice among alternatives, NEPA provides that an agency must make reasonable efforts to collect the information, so long as the means for obtaining it are known and the cost is not exorbitant (see 40 CFR §1502.22(a)-(b)). If the overall costs of obtaining the unavailable information needed to conduct the analysis is exorbitant or the means to obtain it are not known, NEPA provides that an agency should (as appropriate): 1) state the information is incomplete or unavailable; 2) state the relevance of the incomplete or unavailable information; 3) summarize existing credible scientific evidence relevant to evaluating the impact; and 4) include an evaluation of such impacts based on theoretical approaches or research methods generally accepted in the scientific community. Agencies may consider addressing unavailable information in other NEPA documents in a similar manner. Agencies may choose to proceed in the same way if subpopulation information not currently in possession of an agency is not essential, but could aid in assessing impacts rather than determining significance regardless of whether the proposed action is significant (e.g., during Environmental Assessments).

13. Considering whether a proposed action may result in an impact with a low probability of occurrence, but with catastrophic consequences (i.e., low-probability, high impact event) can inform an agency's assessment of the significance of the impact. When analyzing a proposed action's impacts and risks in an EIS from reasonably foreseeable low-probability, high-impact events (including, but not limited to, accidental releases of contaminants and natural disasters) agencies may wish to consider the availability of information concerning the potential unique vulnerabilities of minority populations and low-income populations in the affected environment (see 40 CFR §1502.22(b)). Potential vulnerabilities of minority populations and low-income populations to low-probability, high-impact events may include, but are not limited to, a lack of infrastructure and resources to address these unanticipated impacts; inability to evacuate or relocate; lack of access to health care; and reliance on affected natural and cultural resources. Agencies may consider addressing unavailable information in other NEPA documents (e.g. during Environmental Assessments) in a similar manner.

14. The degree to which an impact to minority populations and low-income populations in the affected environment is highly controversial (see 40 CFR §1508.27(b)(4)) (e.g., a substantive dispute as to the size, nature, or effect of the

action) can inform whether there is a significant impact. If an agency identifies a highly controversial impact to minority populations and low-income populations it may wish to consider seeking additional information and coordination in order to evaluate the controversy.

Specific Steps

As appropriate, agencies can consider the following actions:

1. Agencies may wish to recognize that there may be cultural differences among various individuals, communities, and organizations regarding what constitutes an impact or the severity of an impact.

2. Evaluation of impacts to minority populations and low income populations may inform other sections, including an agency's consideration of the affected environment, alternatives and meaningful engagement.

3. Agencies may wish to begin analyzing potential adverse and beneficial impacts to minority populations and low-income populations after the exposure pathways and environmental consequences of the proposed action (e.g., ecological, aesthetic, historic, cultural, economic, social, or health impacts) are identified and the affected environment is established. However, economic or social impacts, alone, are not considered significant unless they are interrelated with natural or physical environmental impacts.

4. Agencies may wish to make diligent efforts to meaningfully engage minority populations and low-income populations in the affected environment regarding possible impacts from the proposed action and document findings throughout the NEPA process. Engaging the community about possible impacts is most effective when initiated as early as possible in the NEPA process (see Section I).

5. Agencies may consider analyzing potential impacts in light of: 1) public input documented in Step Two above; and 2) previously collected data on minority populations and low-income populations in the affected environment, particularly with regard to unique conditions. Unique conditions include, but are not limited to ecological, aesthetic, historic, cultural, economic, social, or health vulnerabilities.

6. Agencies may consider describing all reasonably foreseeable direct, indirect and cumulative adverse impacts to minority populations and low-income populations in the affected environment that may result from a change to the

environment or exposure to environmental contaminants (e.g., chemical, biological, physical, or radiological) or arising from related ecological, aesthetic, historic, cultural, economic, social, or health consequences of the proposed action to the community.

7. Agencies may consider describing all reasonably foreseeable direct, indirect and cumulative beneficial impacts to minority populations and low-income populations in the affected environment that may result from a change to the environment or exposure to environmental contaminants (e.g., chemical, biological, physical, or radiological) or arising from related ecological, aesthetic, historic, cultural, economic, social, or health consequences of the proposed action to the community.

8. Agencies may consider identifying and documenting sources of uncertainty in the impact analyses, particularly with regard to data supporting the characterization of subpopulations (See section 5, p.23 and section 6, p.28)

9. Agencies may wish to provide the records that reflect an agency's rationale for any decisions made as part of the analyses, as well as an agency's chosen methods and data used to conduct the impact analyses.

VIII. DISPROPORTIONATELY HIGH AND ADVERSE IMPACTS

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. As informed by CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act* (1997), the identification of a disproportionately high and adverse impact on minority and low income populations does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. If an agency determines there is a disproportionately high and adverse impact to minority populations and low-income populations, an agency may wish to consider heightening its focus on meaningful public engagement regarding community preferences, considering an appropriate range of alternatives (including alternative sites), and mitigation and monitoring measures.

2. 'Context' and 'intensity', evaluated during the consideration of an impact's significance (See 40 CFR §1508.27) may be factors that can (as appropriate) inform an agency's determination whether an impact is disproportionately high and adverse (See Executive Order 12898).

3. 'Significance' may, as appropriate, be a factor in determining if an impact is disproportionately high and adverse. (See Appendix A, Text of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Annotated with Proposed Guidance on Terms" which is attached to CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act* (1997)). In some circumstances, an agency may determine that impacts are disproportionately high and adverse, but not significant within the meaning of NEPA. In other circumstances, an agency may determine that an impact is both disproportionately high and adverse and significant within the meaning of NEPA. A finding of no significant impacts to the general population is insufficient (on its own) to base a determination that there are no disproportionately high and adverse impacts to minority populations and low-income populations.

4. Disproportionately high and adverse impacts are typically determined based on the impacts in one or more resource topics analyzed in NEPA documents. Any identified impact to human health or the environment (e.g., impacts on noise, biota, air quality, traffic/congestion, land use) that potentially affects

minority populations and low-income populations in the affected environment might result in disproportionately high and adverse impacts.

5. Agencies may wish to integrate the analysis of the potential for disproportionately high and adverse impacts to minority populations and low-income populations into the NEPA process. The basic principles and practices of analysis applicable to all resource topics analyzed in the NEPA document (air emissions, water, biota, human health, noise, etc.) apply to the analysis of disproportionately high and adverse impacts as well.

6. Agencies may wish to consider factors that can amplify identified impacts (e.g., the unique exposure pathways, prior exposures, social determinants of health) to ensure a comprehensive review of potential disproportionately high and adverse impacts to minority populations and low-income populations.

7. Agencies may wish to recognize that in instances where an impact from the proposed action initially appears to be identical to both the affected general population and the affected minority populations and low-income populations, there may be inter-related ecological, aesthetic, historic, cultural, economic, social, or health factors that amplify the impact (e.g., unique exposure pathways, social determinants of health, community cohesion). After consideration of factors that can amplify an impact to minority populations and low-income populations in the affected environment, an agency may determine the impact to be disproportionately high and adverse.

8. Agencies' approaches should not determine that a proposed action or alternative would not have a disproportionately high and adverse impact on minority populations and low-income populations solely because the potential impacts of the proposed action or alternative on the general population would be less than significant (as defined by NEPA). Agencies may wish to consider unique vulnerabilities, special exposure pathways, and cultural practices associated with minority populations and low-income populations in the affected environment.

9. The disproportionately high and adverse impacts determination can help inform how an agency develops and/or selects alternative(s) and mitigation measures to avoid, minimize, rectify, reduce, or compensate for adverse impacts.

10. Agencies may wish to consider the distribution of beneficial and adverse impacts between minority populations and low-income populations in the

affected environment and the general population as a factor in the disproportionately high and adverse impacts determination. Scenarios in which minority populations and low-income populations receive an uneven distribution of benefits in the presence of adverse impacts, (e.g. a smaller proportion of beneficial impacts accrue to minority populations and low income populations than the general population) could indicate a potential disproportionately high and adverse impact.

11. Beneficial impacts from, and mitigation measures to, reduce the impacts associated with federal actions are distinct concepts.

12. Agencies' approaches to making a disproportionately high and adverse impact determination can be informed by the equitable distribution of beneficial impacts and how adverse impacts are mitigated. The end result is the same, as agencies consider mitigation for identified adverse impacts and address identified potentially disproportionately high and adverse impacts with additional mitigation measures informed by community involvement. Regardless of the approach that is selected, an agency may wish to explain its analysis and rationale.

13. While all approaches for identifying and addressing disproportionately high and adverse impacts consider the distribution of adverse and beneficial impacts to minority populations and low-income populations in the affected environment, the timing for considering mitigation varies for some approaches. Some agencies identify potentially disproportionately high and adverse impacts prior to developing mitigation measures for addressing the impact. Other agencies wait until all possible mitigation measures to address the impact have been developed before making the disproportionately high and adverse impact determination.

14. Agencies may wish to identify a relevant and appropriate comparison group when evaluating the impact of the proposed federal action on minority populations and low-income populations. The comparison group provides context (as appropriate) for the analysis of human health effects, environmental effects and the risk or rate of hazard exposure to minority populations and low-income populations in the affected environment. Comparison group is distinct from a reference community (See section 5, p.23 and section 6, p.28) which are used to identify the existence of minority populations and low-income populations.

15. In the disproportionately high and adverse impact analysis, agencies may wish

to compare (as appropriate) impacts to minority populations and low-income populations in the affected environment with an appropriate comparison group within the affected environment. Relevant and appropriate comparison groups are selected based on the nature and scope of the proposed project. The types of calculations used for the comparison can include, but are not limited to, rates and risks. In addition, agencies may wish to (as appropriate) reference relevant national, state, and/or local data sets to inform the determination of a disproportionately high and adverse impact.

16. Agencies may wish to consider delineating parameters for selecting relevant comparison groups that can be applied on a case-by-case basis. Parameters may be different for a programmatic document versus a document that is either tiered to the initial programmatic document or is a stand-alone site-specific NEPA review. More than one comparison group may be appropriate in some instances. When selecting relevant comparison groups, it is important to capture, as appropriate, relevant demographic, ecological, aesthetic, historic, cultural, economic, social, and health information. Considerations include, but are not limited to the following parameters:

    a. Relevant jurisdictional boundaries based on the affected environment attributed to the specific impact being analyzed (county, state, or national level);

    b. Environmental stressor sources that may cause adverse health effects, such as the number of environmentally-regulated facilities within a community, proximity of regulated facilities, and quality of the air, water, and other environmental media;

    c. Existing health conditions such as percent of infant mortality, average birth weight, adult mortality, life expectancy at birth, and life span (e.g., age groups, healthy versus vulnerable populations);

    d. General demographics, e.g., percent of racial/ethnic population, population density, percent of the Native American population, distribution of languages spoken in population, and percent of the population that is literate in English or other languages; and

    e. Economic information, e.g., unemployment rate, income level and distribution, percent of homeowners and renters in a community, percent of residents relying on agriculture in the area, and percent relying on government resources.

16. Agencies may wish to document the selection process used to identify relevant

comparison groups in the NEPA review document.

17. Potential disproportionately high and adverse impacts should be described quantitatively whenever possible. At minimum, agencies may wish to provide a qualitative description. Agencies may want to pay particular attention to the description of human health impacts, which may be described in terms of risks or rates of exposure, if appropriate data are available.

Specific Steps

As appropriate, agencies can consider the following actions:

Specific Steps from Previous Sections to be Completed Prior to Disproportionately High and Adverse Impact Analysis:

1. Consider determining the affected environment for the proposed federal action. The geographic scope of the affected environment may be different for each resource topic analyzed in the NEPA document (e.g., human health, air, water, socio-economics, wildlife, etc.) and analyzed alternative. The NEPA documents should contain a description of the environment of the areas to be affected by the alternatives under consideration. (See section 3, p.17)

2. Consider referencing available information on environmental, and related ecological, aesthetic, historic, cultural, economic, social, or health impacts from the proposed action within the affected environment. (See section 3, p.17)

3. Consider determining whether any minority populations and low-income populations are present within the affected environment for each of the alternatives carried forward for detailed analysis in the NEPA document (See section 5, p.23 and section 6 p.28). Generally, if minority populations and low-income populations are not identified, then the environmental justice analysis is complete.

4. Consider analyzing direct, indirect, and cumulative impacts to minority populations and low-income populations in the affected environment from resource topics analyzed in the NEPA document for each alternative carried forward for detailed analysis in the NEPA document. Look at impacts to: 1) human health; and 2) other environmental effects (See section 7, p. 31).

5. Consider determining whether any direct, indirect, or cumulative impacts to minority populations and low-income populations in the affected environment, for each alternative carried forward for detailed analysis in the NEPA document, are 'significant' (as employed by NEPA). (See section 7, p.31).

Specific Steps to Conduct the Disproportionately High and Adverse Impacts Analysis:

1. When appropriate and as decided on a case-by-case basis, agencies may wish to select and explain the parameters used for identifying a relevant and appropriate comparison group within the affected environment.

2. Consider identifying the relevant and appropriate comparison group within the affected environment using the parameters selected in Step One, above.

3. Agencies may wish to consider the degree to which any of the following seven factors[15]could amplify identified impacts. Factors that can potentially amplify an impact to minority populations and low-income populations in the affected environment include, but are not limited to, the following:
   a. Proximity and exposure to chemical and other adverse stressors, e.g., impacts commonly experienced by fence-line communities;
   b. Vulnerable populations, e.g., minority and low-income children, pregnant women, elderly, or groups with high asthma rates;
   c. Unique exposure pathways, e.g., subsistence fishing, hunting, or gathering in minority and low-income populations;
   d. Multiple or cumulative impacts, e.g., exposure to several sources of pollutions or pollutants from single or multiple sources;
   e. Ability to participate in the decision-making process, e.g., lack of education or language barriers in minority and low-income populations;
   f. Physical infrastructure, e.g., inadequate housing, roads, or water supplies in communities;
   g. Non-chemical stressors, e.g., chronic stress related to environmental or socio-economic impacts.

   Agencies can be informed by considering additional factors that could amplify an impact to minority populations and low-income populations in the affected environment (as appropriate). Any identified factors that amplify the impacts to minority populations and low-income populations may (as appropriate) inform all subsequent analyses.

4. Consider summarizing adverse and beneficial impacts to both minority

[15] See US EPA, *Factors for Identifying and Addressing Disproportionate Environmental Health Impacts* (2007); Supplement to American Journal of Public Health, Vol. 101, No. S1 (Dec 2011).

populations and low-income populations in the affected environment and, if applicable, appropriate comparison groups. Also, consider summarizing any mitigation measures that may have been developed prior to the commencement of the disproportionately high and adverse impact assessment that reduce adverse impacts to minority populations and low-income populations and, if applicable, comparison groups (see 40 CFR §1508.20). These summaries can (as appropriate) apply to the analysis of determining whether there is a disproportionately high and adverse impact from the proposed action for each alternative carried forward in the NEPA document.

5. Consider analyzing the distribution of adverse and beneficial impacts between the general population and minority populations and low-income populations in the affected environment as a factor when determining whether there is a disproportionately high and adverse impact. The distribution of adverse and beneficial impacts between the general population and minority populations and low-income populations is a factor that can be considered in the disproportionately high and adverse impacts determination.

6. There are various approaches to determine whether a proposed agency action will cause disproportionately high and adverse impacts to minority populations and low-income populations in the affected environment. For example:

   a) Impact Focus Approach:
      i. Beneficial impacts are considered in the analysis of the distribution of adverse and beneficial impacts between the general population and minority populations and low-income populations in the affected environment (see Step 5 above).
      ii. Consider (as appropriate) relevant mitigation measures (including avoidance and minimization) developed prior to the commencement of the disproportionately high and adverse impact assessment that reduce adverse impacts to minority populations and low-income populations.
      iii. If an adverse impact to minority populations and low-income populations remains after accounting for the mitigation measures developed prior to the commencement of the disproportionately high and adverse impact assessment, an agency should continue to consider whether the remaining adverse impact(s) is/are disproportionately high and adverse.

   b) Balancing Approach:
      i. Consider both mitigation measures developed prior to the commencement of the disproportionately high and adverse impact

assessment that reduce adverse impacts to minority populations and low-income populations and any additional mitigation developed during the disproportionately high and adverse impacts assessment (see also Step iv. below).

ii. After considering all appropriate mitigation measures, balance any remaining adverse impacts with beneficial impacts of the project to the community, as appropriate (see also Steps iv. and v. below).

iii. If an adverse impact to minority populations and low-income populations remain after accounting for all appropriate mitigation measures and related project benefits, continue to consider whether the remaining adverse impact(s) is/are disproportionately high and adverse.

iv. In determining the balance of beneficial and adverse impacts, the beneficial impacts and mitigation should be related to the type and location of the adverse impact.

v. Agencies should not balance adverse impacts that directly affect human health at levels of concern, especially those that exceed health criteria, with project benefits.

7. When appropriate, as decided on a case-by-case basis, after full consideration of **Specific Steps to Conduct the Disproportionately High and Adverse Impacts Analysis** (see Steps 1-6 above) consider comparing direct, indirect and cumulative adverse impacts to minority populations and low-income populations in the affected environment within the geographic unit of analysis to an appropriate comparison group. Measurable standards and evidence-based approaches can be used, if available and appropriate. This comparison may be considered for each alternative carried forward for detailed analysis in the NEPA document.

8. Consider whether any of the following conditions are met, which may (as appropriate) be measured in risks and rates:
   - **Exposure:**
     - exposure by minority populations and low-income populations to an environmental hazard that appreciably exceeds or is likely to appreciably exceed the risk or rate to the appropriate comparison group
   - **Human health or environmental impact:**
     - to minority populations and low-income populations is above generally

accepted norms[16]

- to minority populations and low-income populations exceeds or is likely to appreciably exceed the impact to an appropriate comparison group
- predominantly borne by minority populations or low-income populations
- occurs in minority populations and low-income populations affected by cumulative or multiple adverse exposures from environmental hazards
- to minority populations and low-income populations is significant and adverse.

9. Consider determining and stating in the NEPA document whether disproportionately high and adverse impacts exist for the proposed action and alternatives carried forward for detailed analysis in the NEPA document.

10. As appropriate, at this stage in the analysis, agencies may wish to reassess whether any disproportionately high and adverse impact is significant under NEPA through a review of context and intensity.

11. Consider communicating identified disproportionately high and adverse impacts to the affected minority populations and low-income populations and the public as early as appropriate to help identify potential mitigation measures.

12. As practicable, consider coordinating with minority populations and low-income populations in the affected environment as an agency develops and explores potential mitigation measures to address identified impacts to minority populations and low-income populations, including but not limited to those determined by an agency to be disproportionately high and adverse (See section 9, p.50).

[16]*Generally accepted norms* is a term used in "Appendix A, Text of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Annotated with Proposed Guidance on Terms" which is attached to CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act* (1997).

IX. MITIGATION AND MONITORING

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. Identifying mitigation is an important component of NEPA and Executive Order 12898. Generally, in NEPA documents, when an agency identifies potential adverse impacts it may wish to evaluate practicable mitigating measures, even if an agency determines the adverse impacts are not significant. The unique characteristics and conditions of minority populations and low-income populations in the affected environment may require adaptive and innovative mitigation measures to sufficiently address the specific circumstances and impacts presented by the proposed action. This includes mitigation of identified disproportionately high and adverse impacts, whenever feasible. Agencies may wish to evaluate mitigation measures even if the project will have some benefits to minority populations and low-income populations.

2. Throughout the NEPA process, agencies may wish to (as appropriate) involve potentially affected minority populations and low-income populations as agencies develop and implement mitigation measures and monitoring. Establishing groups made up of community members can be an effective method of engaging minority and low-income populations as an agency develops mitigation measures.

3. Agencies may wish to consider whether mitigation or monitoring measures can be included as conditions in its associated permits and licenses or in federal assistance grants and agreements, as appropriate.

4. Including monitoring requirements and sharing monitoring results with the public can often help to alleviate issues raised by minority populations and low-income populations. Discussions with minority populations and low-income populations regarding the types of monitoring information that are of interest and how to best share monitoring results may improve the effectiveness of monitoring efforts. Feedback from minority populations and low-income populations can also be considered when developing monitoring measures.

5. Agencies may wish to consider, when preparing an Environmental Assessment[17], developing mitigation measures to avoid, minimize, rectify, reduce, or compensate for potentially significant adverse environmental

[17] CEQ, *Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact* (Jan. 2011)

impacts that would otherwise require full review in an environmental impact statement.

6. When there are unavoidable adverse impacts to minority populations and low-income populations in the affected environment, agencies may wish to consider appropriate compensating mitigation and/or additional project benefits and provide express details in the NEPA document (see 40 CFR §1508.20(e)). These unavoidable adverse impacts can also be addressed separately in an environmental justice technical report.

7. Agencies may wish to make their mitigation and monitoring commitments clear and accessible in a format easily understandable by the public, including minority populations and low-income populations.

8. Agencies may wish to identify mitigation and monitoring measures designed specifically to address impacts to minority populations and low-income populations in the affected environment separately in the NEPA decision document and also separately in an environmental justice technical report.

9. If mitigation measures for impacts to minority populations and low-income populations in the affected environment have been identified in the NEPA document, agencies may wish to develop an adaptive management plan and conduct implementation and effectiveness monitoring. Monitoring implementation of mitigation measures can inform an agency and community whether the measures are on schedule and when they have been completed. Through the use of effectiveness monitoring, an agency and community can learn if the mitigation measures are providing the predicted outcomes. An adaptive management plan can provide agencies with a means for taking corrective action if mitigation implementation or effectiveness monitoring indicates the measures are not achieving the intended outcomes.

Specific Steps

As appropriate, agencies can consider the following actions:

1. Agencies can be informed by data and information on the affected environment, adverse and beneficial impacts, (direct, indirect and cumulative effects) and public outreach and participation when developing potential mitigation measures.

2. When agencies are developing mitigation measures they should consider engaging minority populations and low-income populations early and throughout

the process, as appropriate.

3. Consistent with applicable requirements, agencies should identify and analyze mitigation measures for impacts to minority populations and low-income populations in the affected environment (See 40 CFR §1502.14 and 1502.16). This includes appropriate mitigation measures not already included in the proposed action or alternatives (See 40 CFR §1502.14(f)) and any additional means to mitigate (if not fully covered under 40 CFR §1502.14(f)) for each identified disproportionately high and adverse impact to minority populations and low-income populations (See 40 CFR §1502.16(h).

4. If an agency determines there are disproportionately high and adverse impacts to minority populations and low income populations from its proposed project, the agency should consider and take action, as appropriate, to mitigate and monitor the impacts. When developing mitigation measures for adverse impacts, including for disproportionately high and adverse effects[18] to minority populations and low-income populations in the affected environment, consider the following five mitigation methods for each potential impact identified:

   a. Avoiding an impact by not taking a certain action or parts of an action.

   b. Minimizing an impact by limiting the degree or magnitude of the action and its implementation.

   c. Rectifying an impact by repairing, rehabilitating, or restoring the affected environment.

   d. Reducing or eliminating an impact's frequency over time, such as through preservation and maintenance operations during the life of the action.

   e. Compensating for an impact by replacing or providing substitute resources or environments.

5. Consistent with applicable requirements, agencies should state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted. (See 40 CFR §1502.2(c)). If disproportionately high and adverse impacts are unlikely to be fully mitigated, agencies may wish to explain in the analysis which measures to avoid or minimize environmental harm to minority populations and low-income populations from the selected alternative would be adopted, and describe any measures that were not adopted, and why they were not. An agency's analysis can disclose remaining disproportionately high and adverse impacts on

[18] See e.g. *Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses*, (April 1998)

minority populations and low-income populations in the affected environment, if any, and explain why further mitigation is not proposed.

6. Consider specifying mitigation or monitoring commitments in terms of timeframe, measurable performance standards or expected results (as appropriate) so as to establish clear performance expectations, and include appropriate language in the NEPA documents. The description of the mitigation measures should include (as appropriate) accountability measures (e.g., identify clear consequences) for failure to implement selected mitigation or monitoring measures. Agencies can be informed regarding feasibility of implementation by an explanation of how the mitigation and monitoring measures will be funded and who will implement the measures.

7. Consider developing an implementation and effectiveness monitoring plan to track performance and outcomes and reference the plan within the decision document (as appropriate).

8. Consider including an adaptive management process to adjust mitigation measures based on monitoring results.

9. Consider providing mitigation commitments and monitoring reports to the public including minority populations and low-income populations in appropriate formats (e.g., online, in print) whenever possible.

10. When conducting an Environmental Assessment, agencies may evaluate direct, indirect, and cumulative impacts to potentially affected minority populations and low-income populations for all of the relevant resource areas/impact topics. Regardless of whether an agency determines that a 'finding of no significant impact' (FONSI) or mitigated FONSI is appropriate for a proposed action analyzed in an environmental assessment, agencies may wish to explore in the environmental assessment mitigation measures for all potential adverse impacts. If issuing a FONSI, agencies may wish to clearly describe the specific mitigation for any identified impacts, including mitigation for impacts that are disproportionately high and adverse to minority populations and low-income populations.

NEPA AND EJ NATIONAL TRAINING PROJECT

Overview

The NEPA Committee seeks to improve the effective, efficient and consistent consideration of environmental justice issues in the NEPA process through the sharing of best practices, lessons learned, research, analysis, training, consultation, and other experiences of federal NEPA practitioners. To accomplish this purpose, the NEPA Committee produced a National Training Product (NTP) that serves as a companion to *Promising Practices for EJ Methodologies in NEPA Reviews (Promising Practices)*.

Several measures were taken to develop the foundation for the NTP. First, exemplary trainings on environmental justice from across the federal family were identified and reviewed for best practices. Second, training material from multiple federal agencies on environmental justice and NEPA including guidance, protocol and related documents, were assessed for best practices. Third, examples of NEPA reviews that addressed environmental justice were collected. Finally, draft PowerPoints were produced, reviewed and revised over the course of 36 months in order to produce the final NTP.
In addition, the NTP is aligned with *Promising Practices*. This alignment does not imply a line-by-line interpretation but that the key elements are captured. It is recommended that *Promising Practices* be read before taking the training and kept close by for reference so that the full nature and context of the NTP can be better understood. *Promising Practices* guiding principles and specific steps are referenced throughout the NTP. However, the NTP also includes more details and provides additional options, methods and examples.

The NTP consists of a Master PowerPoint Presentation that can be used in whole or in part to increase understanding of the intersection between NEPA and environmental justice. The target audience is federal NEPA and environmental justice practitioners. The NTP uses a variety of approaches (e.g. mapping tools, examples, and videos) to help explain elements of an effective environmental justice analysis in the NEPA process.

OUTLINES OF NATIONAL TRAINING PRODUCT

Part One: Background on NEPA and environmental justice

- Learning Objectives
- Environmental j=Justice Defined
- Environmental Justice/NEPA Common Themes
- Core Principles of Environmental Justice

Part Two: Integration of Environmental Justice Analysis in the NEPA Process

I. Meaningful Engagement

- Outreach
- Other Options
- Public Participation
  Case Example [NY/NJ/Philadelphia Metropolitan Airspace Redesign (FAA)]

II. Scoping Process

- Early Planning, Case Example [New Pueblo, Colorado Freeway (FHWA)]

III. Defining the Affected Environment

- Demographic Data
- Base Line Characteristics
- Unique Conditions

IV. Developing and Selecting Alternatives (Alternatives Analysis)

V. Identifying Minority Populations

- Guiding Principles
- Conduct Appropriate Analyses
- Test 1: The No-Threshold Analysis
- Test 2: Part 1- The 50% Criteria and Part 2 – The Meaningfully Greater Test
- Determining Appropriate Benchmarks
- Comparative Magnitude vs Absolute Threshold
  Case Example [Moganza to the Gulf Feasibility Study, Storm and Hurricane Risk-Reduction System (ACoE)]

VI. Identifying Low-Income Populations

- Guiding Principles
- Alternative Criteria Analysis
  Lo -Income Threshold Criteria
- Case Example: Did They Do It Right - an Interactive Scenario

VII. Impacts

VIII. Disproportionately High and Adverse Impacts (DHAI)

- Disproportionate Impact Factors
- DHAI Determination
- Assessing Benefits and Burdens
  Case Example [Gasco Development – Oil and Gas Development on BLM lands, Utah; Klamath River Facilities Removal, OR and CA]

IX. Mitigation and Monitoring

- Mitigation Methods
  Case Example [Central Corridor Light Rail Transit, Minneapolis-St. Paul, MN]
- Community Benefits Agreements
  Case Example Charleston Naval Base Expansion

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